

REMARKS

Claims 3-5, 8-9 and 13-21 are pending in the application including the claims indicated by the examiner as being currently withdrawn from consideration and new claim 21.

In the Office Action, claims 1-6, 13 were rejected over the article by Lee et al. ("*Lee*") in view of U.S. Patent Publication No. 2003/0015342 to Sakamoto et al. ("*Sakamoto*"). Claims 18-19 were rejected over U.S. Patent No. 6,365,968 to Qian et al. ("*Qian*"). For the reasons set forth below, applicants respectfully submit that the invention recited in the claims as amended herein is fully distinguished from the cited references.

Each of the independent claims 5, 18 and 19 now recites a method in which a photoresist layer is formed in contact with a multiplicity of retrograde profile openings of a surface layer, each such opening growing larger with increasing depth from an exposed surface of the surface layer. In this way, the photoresist layer interlocks with the multiplicity of retrograde profile openings.

None of the references cited by the examiner teaches this feature of the invention. While the Office Action referred to *Lee* as showing openings having a "retrograde profile (etching inclined angle, see figure 4)," *Lee* clearly does not teach retrograde profile openings as claimed in claims 5, 18 and 19 which grow larger with increasing depth from an exposed surface of the surface layer such that a photoresist layer deposited thereon interlocks with the multiplicity of retrograde profile openings. *Sakamoto* is merely cited generally for describing forming a rough surface polymeric layer by chemical

etching or plasma process.

Likewise, *Qian* does not teach a surface layer having retrograde profile openings which grow larger with increasing depth from the surface. Moreover, in the structure taught by *Qian*, the photoresist layers 156, 157 are not deposited in contact with the openings in a polymeric surface layer (photoresist layer 154), but instead on an intervening oxide layer 118.

Claim 21 specifies HMDS as an adhesion promoter for use in the method recited in claim 3 of forming retrograde profile openings of the surface layer. Applicants note that while Lee refers to the use of HMDS, it is only for its conventional purpose of promoting adhesion when depositing a photoresist. Lee does not teach the use of HMDS during an etch process to form retrograde profile openings as claimed in claim 21.

Support for the present amendments is provided, *inter alia*, at paragraphs [0034] and [0035] of applicant's specification and in FIG. 5.


In view of the present amendments and remarks, it is believed that the application is now in condition for allowance. If, for any reason, the examiner does not believe that such action can be taken at this time, it is requested that he telephone the undersigned at the number indicated below to discuss any issues that remain.

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It is believed that no fees are required upon filing this Amendment. However, if any fees are required, authorization is given to debit the Deposit Account No. 09-0458 of the Assignee International Business Machines Corporation. If there is an overpayment, please credit the same account.

Respectfully submitted,
Colin J. Brodsky et al.

By:



Daryl K. Neff, Attorney
Registration No. 38,253
Telephone: (973) 316-2612